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REMARKS

Claims 1-28, 30 and 31 are currently pending in the subject application and are presently under consideration. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments herein.

I. Meaning of the claim term "classifier"

In the Advisory Action mail July 13, 2004, the Examiner asserts "[a] classification tree is a plurality of classifiers since the classification tree has a plurality of classifications." Advisory Action at p. 2. Applicants' representative respectfully submits that the Examiner's assertion is incorrect.

As set forth in MPEP §2111.01, words of the claims must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz*, 893 F.2d 310, 321, 13 USPQ 2d 1320, 1322 (Fed. Cir. 1989). Further, claim terms are presumed to have the ordinary and customary meanings attributed to them by those skilled in the art. *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003); *Brookhill-Wilk 1, LLC v Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298, 67 USPQ2d 1132, 1136 (Fed. Cir. 2003). It is the use of the words in the context of the written description and customarily by those skilled in the relevant art that accurately reflects both the "ordinary" and the "customary" meanings of the terms in the claims. *Ferguson Beauregard/Logic Controls v. Mega Systems*, 350 F.3d 1327, 1338, 69 USPQ 2d 1001, 1009 (Fed. Cir. 2003).

As set forth in the specification of the subject application, a decision tree model is one example of a **classifier** – it is not a plurality of classifiers:

There are many applications for automatic classification of items such as documents, images, and records. To address this need, a plethora of classifiers have been developed. Examples include a priori rule-based classifiers, such as expert systems, and classifiers based on probabilistic dependency models learned from trained data. Classifiers based on probabilistic dependency models include classifiers based on decision tree models, support vector machines, Bayesian belief networks, and neural networks.

p. 1, lines 10-16.

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II. Rejection of Claims 1-28 and 30-31 Under 35 U.S.C. §102(e)

Claims 1-28 and 30-31 stand rejected under 35 U.S.C. §102(e) as being anticipated by Gjerdingen, *et al.* (U.S. 6,539,395). Applicants' representative respectfully request withdrawal of this rejection for at least the following reasons. Gjerdingen, *et al.* does not teach or disclose the present invention as recited in the subject claims.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claims 1 and 24

Independent claim 1 of the subject invention recites limitations of "a computer system component that applies probabilistic dependency models ... wherein the probabilistic dependency models collectively employs outputs from a plurality of classifiers". Similarly, independent claim 24 recites limitations of "applying probabilistic dependency models ... wherein the probabilistic dependency models collectively contain dependencies on outputs from a plurality of classifiers."

Contrary to the Examiner's assertion, Gjerdingen *et al.* does not disclose combining the outputs of a plurality of classifiers to form a probabilistic dependency model. As noted previously, applicants' representative acknowledges that classifiers based on probabilistic dependency models include classifiers based on decision trees models, support vector machines, Bayesian belief networks, and neural networks (p. 1, lines 14-16).

However, the disclosure of these classifiers in Gjerdingen *et al.* is limited to computation of weights and function fitting. Gjerdingen *et al.* does not teach, disclose or suggest the combination of a plurality of classifiers to form the probabilistic classifier as set forth in independent claims 1 and 24.

In view of at least the above, it is readily apparent that Gjerdingen, *et al.* neither anticipates nor suggests the subject invention as recited in independent claims 1 and 24

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(and claims 2, 3, 4, 25 and 26 which depend there from). Accordingly, this rejection should be withdrawn.

Independent claims 5, 9 and 14

Independent claim 5 of the subject invention is directed to a computer system for classifying items and recites a limitation of “a computer system component that applies a probabilistic dependency model to classify an item, wherein the probabilistic dependency model contains dependencies on one or more classical outputs from a plurality of classifiers and dependencies on one or more reliability indicators”. (emphasis added).

Similarly, independent claim 9 is directed to computer system and recites a limitation of “a first computer system component that learns, from training examples, probabilistic dependency models for classifying items according to one or more reliability indicators together with classical outputs from a plurality of classifiers”. Independent claim 14 is directed to a computer readable medium having computer executable instructions for performing steps comprising “implementing a plurality of classifiers adapted to receive and classify at least one item, the plurality of classifiers each generating a score related to classification of the at least one item; and for each of one or more categories, facilitating classification, selection, and/or utilization of the at least one item with a probabilistic dependency model that employs one or more of the scores and, in addition, one or more reliability indicators”. (emphasis added).

“[R]eliability indicators are, in a broad sense, attributes of the items being classified.” (p. 2, line 27). “These attributes can include characteristics of an item, source of an item, and meta-level outputs of classifiers applied to the item.” (p. 2, lines 28, 29). “In general, a reliability indicator provides an indication of a classifier’s reliability in classifying certain groups of items.” (p. 2, line 29 – p. 3, line 1).

As discussed previously, Gjerdingen *et al.* does not disclose combining the outputs of a plurality of classifiers to form a probabilistic dependency model. Furthermore, Gjerdingen *et al.* does not disclose employment of reliability indicators with regard to the combination of the plurality of classifiers.

In view of at least the above, it is readily apparent that Gjerdingen, *et al.* neither anticipates nor suggests the subject invention as recited in independent claims 5, 9 and 14

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(and claims 6, 7, 8, 10, 11, 12, 13, 15 and 30 which depend there from). Accordingly, this rejection should be withdrawn.

Independent claim 16

Independent claim 16 of the subject invention is directed to a system for classifying items and recites a limitation of "means for determining a model that classifies the items based on a probabilistic approach that combines information about the items including one or more classical outputs of classifiers and one or more attributes of the items other than classical outputs of classifiers". (emphasis added).

As discussed previously, Gjerdingen *et al.* does not disclose combining the outputs of a plurality of classifiers to form a model. Furthermore, Gjerdingen *et al.* does not disclose employment of attributes with regard to the combination of the plurality of classifiers.

In view of at least the above, it is readily apparent that Gjerdingen, *et al.* neither anticipates nor suggests the subject invention as recited in independent claims 16. Accordingly, this rejection should be withdrawn.

Independent claim 17

Independent claim 17 of the subject invention is directed to a computer-readable medium having stored thereon a data structure useful in classifying items and recites:

first data fields containing data representing an attribute to test, wherein the attributes represented include both classical classifier outputs and reliability indicators;

second data fields corresponding to the first data fields and containing data representing values against which to compare the attributes;

third data fields containing data representing classifier outcomes;

fourth data fields facilitating determination of relationships among instances of the first, second, and third data fields, the relationships having a decision tree structure with the first and second data fields corresponding to decision nodes and the third data fields corresponding to leaf nodes.

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As discussed previously, Gjerdingen *et al.* does not disclose combination classifier outputs and reliability indicators to classify items.

In view of at least the above, it is readily apparent that Gjerdingen, *et al.* neither anticipates nor suggests the subject invention as recited in independent claims 17 (and claim 18 which depends there from). Accordingly, this rejection should be withdrawn.

Independent claim 19

Independent claim 19 is directed to a method of generating a classifier and recites a limitation of "applying a probabilistic approach that uses the training examples to develop a model that combines evidence to provide an output relating to whether an item belongs in a category ... wherein the evidence comprises one or more classical outputs of other classifiers and one or more attributes of the item other than the classical outputs of classifiers". (emphasis added). As discussed previously, Gjerdingen *et al.* does not disclose the combination of classifier outputs and attributes to classify items.

In view of at least the above, it is readily apparent that Gjerdingen, *et al.* neither anticipates nor suggests the subject invention as recited in independent claim 19 (and claims 20, 21, 22, 23 and 31 which depend there from). Accordingly, this rejection should be withdrawn.

Independent claim 24

Independent claim 24 is directed to a method of classifying items and recites limitations of "applying probabilistic dependency models, one for each of a plurality of categories, to an item stored in computer readable format to provide an output relating to whether the item belongs in the category with respect to each of the plurality of categories; wherein the probabilistic dependency models collectively contain dependencies on outputs from a plurality of classifiers." Gjerdingen *et al.* does not disclose the combination of classifier outputs to classify items.

In view of at least the above, it is readily apparent that Gjerdingen, *et al.* neither anticipates nor suggests the subject invention as recited in independent claim 24 (and claims 25 and 26 which depend there from). Accordingly, this rejection should be withdrawn.

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Independent claim 27

Independent claim 27 is directed to a method of combining a plurality of classifiers to classify items and recites a limitation of "sequentially applying tests to the items to obtain test results". As discussed previously, Gjerdingen *et al.* does not disclose the combination of classifier outputs to classify items.

In view of at least the above, it is readily apparent that Gjerdingen, *et al.* neither anticipates nor suggests the subject invention as recited in independent claims 27 (and claim 28 which depends there from). Accordingly, this rejection should be withdrawn.


CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 (Ref. No. MSFTP217US).

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,
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